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18 JUN 1985

MEMORANDUM FOR: (See Distribution List)

FROM: 25X1

Chief, Strategic Resources Division
Office of Global Issues

SUBJECT: Soviet Grain Crop Conditions 25X1

1. The attached memorandum is the first in a series of assessments analyzing crop conditions in the Soviet Union. Additional memoranda will be issued periodically during the remainder of the crop season, especially if crop prospects change markedly. 25X1 25X1

2. This assessment was produced by 25X1

the Agricultural Assessments Branch, Strategic Resources Division, Office of Global Issues. 25X1

3. Comments and questions are welcome and may be addressed to the Chief, Agricultural Assessments Branch, 25X1

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Attachment:
USSR: Grain Prospects Favorable 25X1
GI M 85-10163, June 1985 25X1

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SUBJECT: Soviet Grain Crop Conditions [redacted] 25X1

OGI/SRD/AAB, [redacted] (18 June 1985) 25X1

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Central Intelligence Agency

Washington, D.C. 20505

DIRECTORATE OF INTELLIGENCE

18 JUN 1985

USSR: Grain Prospects Favorable

Summary

Crop conditions in the USSR as of mid-June are mostly favorable. With normal weather through July, we expect the winter grain crop--roughly one-third of total Soviet grain output--to amount to about 65 million tons. A crop of this size would be five million tons larger than last year's estimated output and second only to the 1978 record of nearly 86 million tons. Despite a late start, the outlook for spring grains is also generally good at this time. It is too early to quantitatively estimate final production, however, because weather conditions during the next two to three months will largely determine spring grain yields. But even with ideal weather for the rest of the crop season, we believe that a harvest of some 200 to 210 million tons--35 to 45 million below plan--is the best that Soviet farmers can achieve. The principal limiting factors are crop damage already sustained and a total sown area estimated to be only 119.5 million hectares, one of the smallest since 1970. Unusually poor weather, by comparison, could cause total production to fall well below the estimated 180-million-ton average of the 1980-84 period.

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This memorandum was prepared by

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the Agricultural Assessments Branch, Strategic Resources Division, Office of Global Issues. Comments and questions may be directed to Chief, Strategic Resources Division,

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USSR: Grain Prospects Favorable

Following six consecutive poor-to-mediocre grain harvests, prospects for the 1985 Soviet grain crop as of mid-June are mostly favorable. Meteorological data, [redacted] and recent crop observations by the US agricultural attache indicate that serious crop damage from several bouts of hot, dry weather during May was confined to parts of the Volga Valley, North Caucasus, Urals and Kazakhstan--areas that produce less than 10 percent of the annual Soviet grain harvest (Figure 1). In addition, the spring sowing campaign was completed essentially on time despite earlier delays of two to three weeks, according to data released in early June by the USSR Central Statistical Administration. The data also suggest, however, that the downward trend in total grain acreage--begun in the late 1970s--is continuing this year. [redacted] 25X1 25X1

Grain Crop Developments

Winter Grain Crop. Based on our analysis of crop conditions to date, it now appears that Moscow is headed for a winter grain harvest second only to the record 85.9-million-ton crop produced in 1978. If normal weather prevails through the end of the harvest in July, we believe the crop will be some 65 million tons, up five million from last year's estimated output (Table 1). Winter grains--sown mostly in the European USSR in the fall for harvest the following summer--normally account for about a third of total Soviet grain production. [redacted] 25X1

This favorable outlook results from several factors:

- The area sown to winter grains last fall--35 million hectares--was up slightly from the previous year.
- Despite severe temperatures, we believe that a protective snowcover kept winterkill below average.
- Timely rains this spring benefited crop development in most areas.
- Crop vigor--as viewed on recent Landsat [redacted] -is good to excellent in the majority of the winter grains region. 25X1 25X1
- Following a two week trip during the second half of May through most of the Ukraine and parts of the North Caucasus and Central regions, the US agricultural attache reported that prospects for the 1985 winter grain crop were "significantly brighter" than last year. [redacted] 25X1

Not all areas have been problem-free, however. According to meteorological data, a large number of winter grain fields in the southern Volga Valley--especially Volgograd oblast--were exposed to killing temperatures last December. Weather data also 25X1 25X1

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indicate that several days of hot, dry weather in May seriously damaged winter grains in Volgograd and Saratov (Volga Region). This was corroborated by May Landsat imagery which showed that crops there, as well as in Rostov and Stavropol (North Caucasus), Kuybyshev (Volga Region), Orenburg (Southern Urals), and Uralsk (Western Kazakhstan) were under moderate to severe moisture stress. Because the adverse weather hit Volgograd and Rostov when most of the plants were near the critical flowering stage, winter grain yields in those two oblasts are expected to fall well below average.[1] In the other five oblasts, yields probably will be no better than average. Scattered rainfall this month in the affected areas--which produce less than 10 percent of the total Soviet harvest--has prevented any additional losses, but much of the damage sustained is irreversible.

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Dry weather during the first half of May also reduced potential winter grain yields somewhat in the south central Ukraine, although to a smaller degree than in the Volga region. The US agricultural attache judged winter grains there to be in "fair" condition in late May compared with a "good to very good" assessment a month earlier. In addition, dry soil conditions and some thin crop stands were evident in May. However, moderate to heavy rains in early June replenished top soil moisture reserves nearly everywhere, auguring well for at least average yields.

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Even though the bulk of the winter grain crop has passed the most critical phases of its life cycle, future weather conditions can still affect the outcome of the harvest. With excellent conditions for the next several weeks, we believe production could go as high as 70 million tons. On the other hand, a 65-million-ton harvest is by no means assured. Extremely hot weather during ripening would cause grain kernels to shrivel, thereby reducing yields. In additon, excessive rainfall during the harvest could seriously hamper combining operations and lead to sizeable losses in both grain quantity and quality. Under these circumstances, winter grain output could easily fall to 55 million tons.

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Spring Grains. Early season prospects for the Soviet spring grain crop--sown in April and May, and harvested in late summer and fall--are bright. Following a late start, spring planting progressed at a normal or better than normal pace for most of the campaign, especially during peak periods (Figure 2). As a result, farmers completed sowing largely within the optimum agrotechnical deadlines, according to official Soviet data. observations by the US agricultural attache

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[1] Flowering is the stage of development when maximum potential grain yields are determined, and when the crop is most vulnerable to heat/moisture stress.

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indicate that crop growth in the southern European USSR--the region planted first--is generally good. The hot, dry weather that damaged winter grains in the Volga and adjacent areas also cut yield prospects for spring grains. But because the latter were in earlier, less vulnerable stages of development, we believe losses thus far have been relatively small. Even so, spring grains in those areas will remain extremely vulnerable to moisture stress this summer.

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Current Weather Conditions

Weather conditions since the beginning of June have been near-optimal in the European USSR. Moderate temperatures combined with alternating periods of rainfall and sunshine have fostered crop development. Even the problem areas in and around the Volga Valley have received enough rain to meet current crop needs. These favorable conditions are likely to persist for the next week or so. In the grainlands east of the Ural Mountains, unseasonably cool temperatures are hindering early plant growth somewhat. Although not a serious concern presently, if temperatures do not warm up soon, ripening this fall will be delayed, thereby increasing the crop's vulnerability to frost damage. On the positive side, near to above normal precipitation since the beginning of April has maintained soil moisture reserves--one of the principal yield limiting factors in the Soviet Union--at generally good to excellent levels across the region.

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Looking Ahead

With more than four months remaining in the crop season, we cannot yet make a sound estimate of final 1985 Soviet grain production. Indeed, future weather conditions will play the pivitol role in determining spring grain yields. In addition, it is not yet clear what benefits the Soviets will realize this year from a large-scale experimental program in intensive wheat cultivation that is being undertaken on some 17 million hectares--nearly 15 percent of the area sown to grain. According to Soviet press reports, Moscow has purchased large amounts of Western insecticides, herbicides, and fungicides in an attempt to raise average wheat yields by one ton per hectare in the RSFSR, Kazakhstan, and the Ukraine. Although the planned increase of 16 to 18 million tons is unlikely to be fully achieved--because of problems with deliveries to farms and field applications--sizeable gains are possible, especially if the weather remains favorable.

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Nevertheless, even if ideal conditons prevail until the end of the crop season, we believe the best that Moscow can hope for is a crop in the neighborhood of 200 to 210 million tons, far short of its target of 245 million tons. The principal limiting factors are acreage and the damage already sustained by the winter grains. When Soviet farmers achieved their record grain harvest of 237 million tons in 1978, winter grains reached a

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level over 20 million tons higher than our estimate of this year's crop. Moreover, data released by the USSR's Central Statistical Administation in early June indicate that the downward trend in total grain acreage--begun in the late 1970s--is continuing (Table 2). Based on this data, we believe that the total area sown to grain this year will be only about 119.5 million hectares, one of the smallest since 1970 and about 9 million hectares (7 percent) less than in 1978.[2] Assuming average yields, such a decrease in hectarage results in the loss of roughly 13 million tons of potential grain production. [redacted] 25X1

Of course, should the weather deteriorate markedly, especially in the major spring grain regions of the Volga Valley, the Urals, Kazakhstan, and West Siberia, the 1985 Soviet grain crop could come in well below the estimated annual average of 180 million tons during 1980-84. Most damaging would be a shift to hot, dry weather during flowering. [redacted] 25X1

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[2] The cutback in grain area appears to be a consequence of Moscow's policy to expand the amount of arable land put into fallow. Between 1977 and 1984, the harvested grain area of the USSR declined steadily from a record high of 130.4 million hectares to 119.6 million, while fallow increased from 11.7 million hectares to 20 million. Although fallowing sacrifices production in the year in which the land is idled, it usually results in higher, more stable yields in subsequent years as long as the fallowed hectarage is maintained in the crop rotation schedule and abnormally dry weather does not preclude the buildup of moisture reserves in the soil. [redacted] 25X1

[redacted] 25X1

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FIGURE 1
USSR: GRAIN CROP DAMAGE, MAY 1985

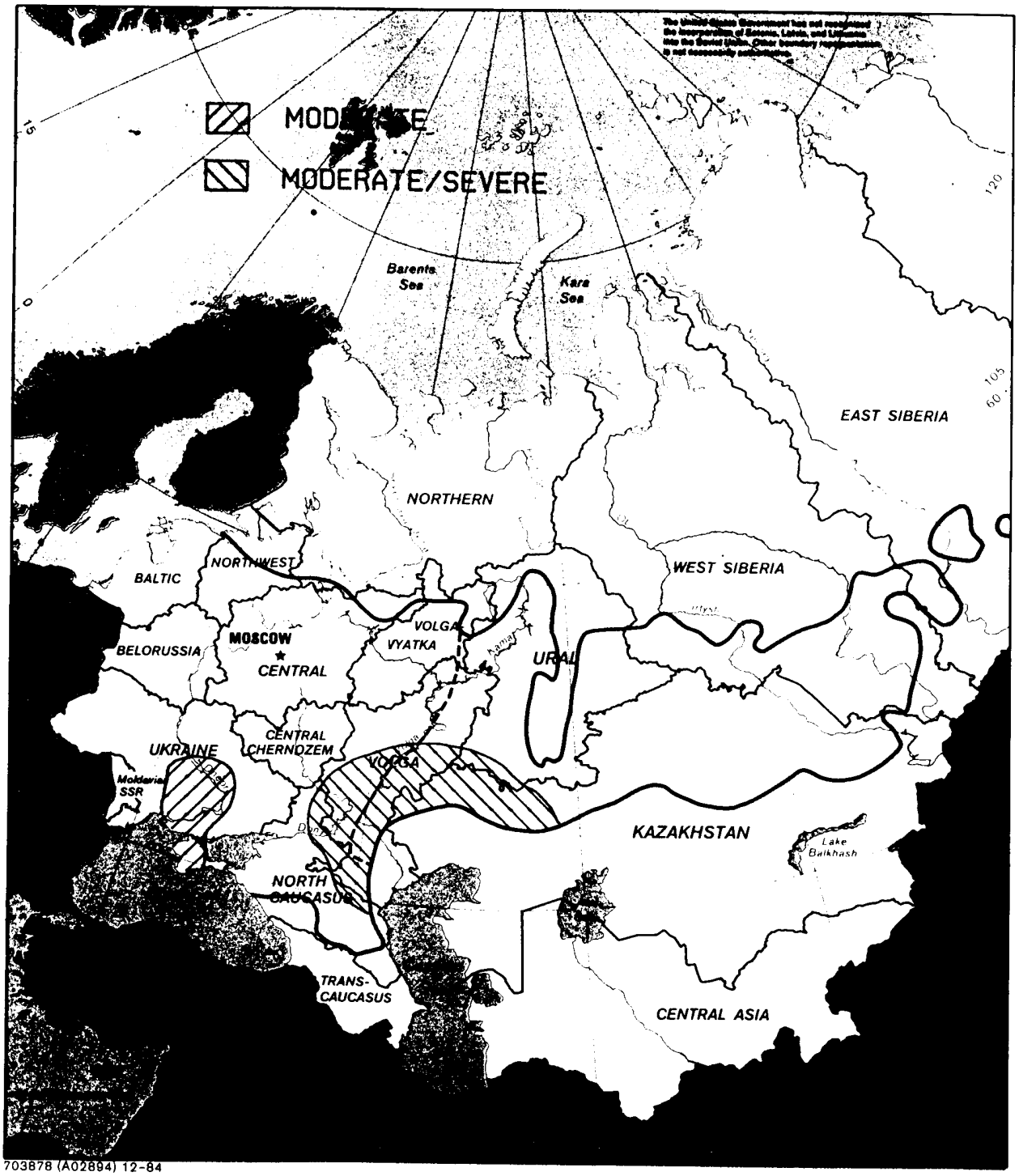

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Table 1

USSR Winter Grains[a]

	1976-80 Average	1981	1982	1983	1984	1985
Area						
Sown (million hectares)	36.1	34.0	35.5	32.5[c]	34.5[c]	35.0
Harvested (million hectares)	29.6	29.3	31.9	28.7	28.9	31.0[c]
Winterkill[b] (percent of area)	18.0	13.8	10.1	11.7	16.2[c]	11.4[c]
Production (million tons)	64.5	55.0[c]	55.0[c]	55.0[c]	60.0[c]	65.0[c]
Yield (centners per hectare)	21.8	18.8[c]	17.2[c]	19.2[c]	20.8[c]	21.0[c]

[a] Winter wheat, rye, barley.

[b] Percentage difference between sown and harvested area. Includes some acreage used for forage.

[c] Estimated.

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Figure 2

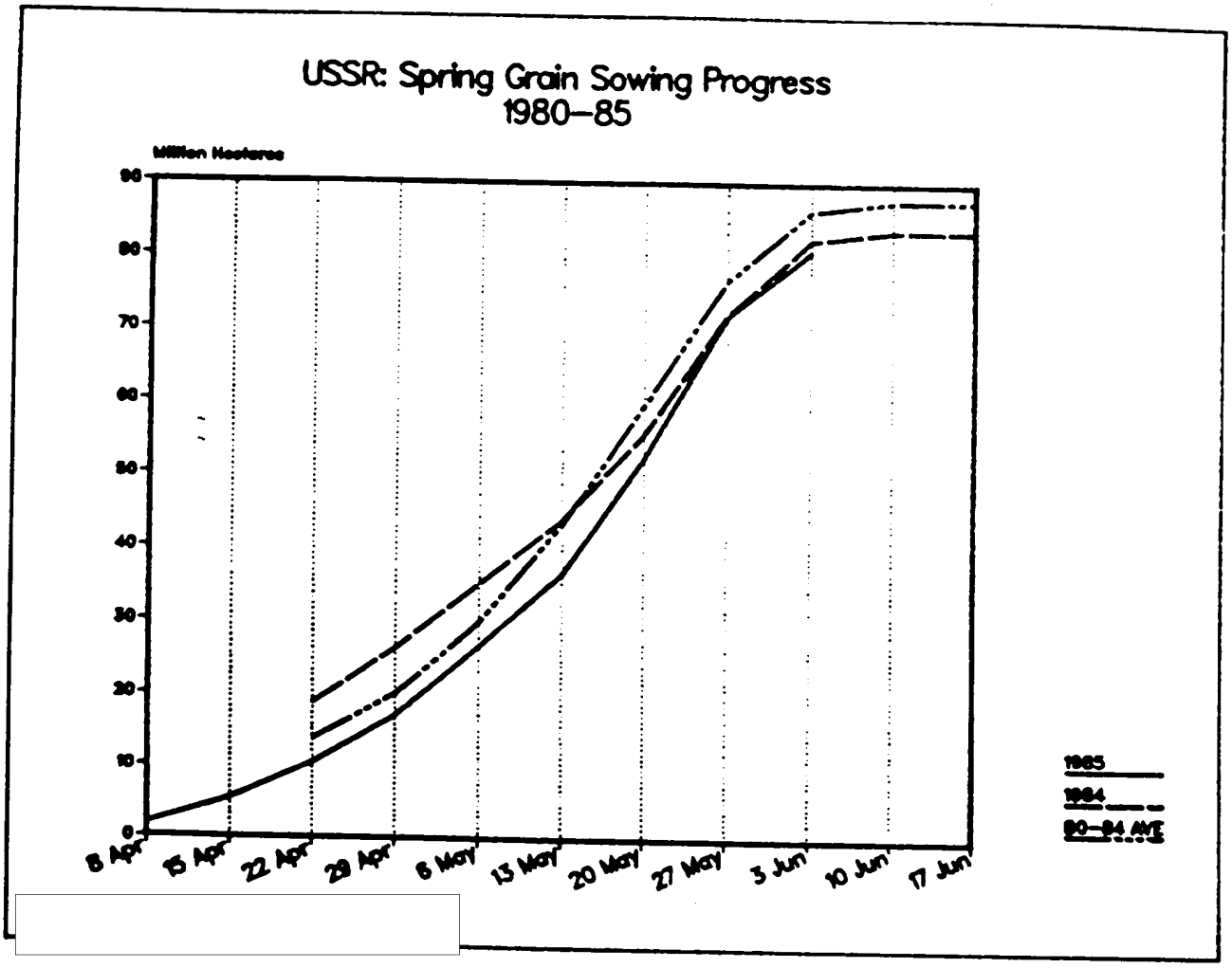

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Table 2

USSR: Selected Grain Statistics

	PRODUCTION (Million Tons)	AREA (Million Hectares)	YIELD (Centners Per Hectare
1976	223.8	127.8	17.5
1977	195.7	130.3	15.0
1978	237.4	128.5	18.5
1979	179.2	126.4	14.2
1980	189.1	126.6	14.9
1981	158.0[a]	125.6	12.6[c]
1982	180.0[b]	123.0	14.6[c]
1983	195.0[b]	120.8	16.1[c]
1984	180.0[b]	119.6	15.0[c]

[a] Unofficial.

[b] Estimated.

[c] Implied.

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